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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/594,227

09/25/2006

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EXAMINER

ARBES, CARL J

ART UNIT

PAPER NUMBER

3729

MAIL DATE

DELIVERY MODE

05/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/594,227 | Applicant(s) KANO ET AL. | |
| | Examiner C. J. Arbes | Art Unit 3729 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-7, 11-13, 15, 16, 18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-10, 14, 17 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>herein</u> . | 6) <input type="checkbox"/> Other: _____ |

Applicants' Response to the Office's restriction that was mailed on or about 13 March 2008 has been duly reviewed but has been found not to overcome the Office holding. That is the Restriction is proper. In view of this holding and further in view of Applicants' response thereto the Restriction is now **made Final**. Applicants therefore are required to cancel all non-elected claims or take other appropriate action.

An Office Action on the merits of claims 8-10, 14, 17 and 20 now follows.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-10, 14, 17 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

To the extent that the language...a substrate containing polyimide having a polymerization initiating moiety in the skeleton... (in Claim 8) is not understood it is held that these claims are unclear, vague and indefinite. For example what polyimide surface does not have a polymerization moiety in the skeleton thereof. The metes and bounds of these claims are indeterminable.

Claims 17 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

This claim is held not to particularly point out nor distinctly claim an invention because the scope or the metes and bounds thereof are not determinable. That is Claim 8 recites "forming a film" whereas Claim 17 recites "forming a metal pattern. It is held

that unless applicants specifically incorporate what they intend to recite from Claim 8 into Claim 17, Claim 17 is held not to particularly point out nor distinctly claim Applicants' invention. Claim 20 is held not to further limit Claim 17 and therefore is unclear, vague and indefinite. The metes and bounds of this claim are held to be indeterminable, unclear and abstruse. It would be advisable for Applicants to recite Claim 20 to specifically include/exclude all that Applicants intend.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10, 14 and 17, assuming that the claims are clear and definite, are further rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraoka et al. (U.S. Doc No. 2004/0009683 A1); hereinafter Hiraoka et al.

Hiraoka et al teach a method for connecting an electronic device onto a sheet-like porous member. The porous member is selectively irradiated. After irradiating the member a conductive material is placed into the hole of the porous member. The porous member (according to Hiraoka et al on page 4) can be made from many polymeric materials among which are polyimides. Moreover Hiraoka et al also teach (on pages 10 and 11) that the porous material can be electrolessly plated. It would have been obvious to apply energy to a surface of a substrate containing polyimide having a polymerization initiating moiety in the skeleton because inherently that is what Hiraoka et al teach (although this reference does not explicitly recite this matter)

Claim 20, assuming that this claim is clear and definite, is further rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraoka et al in view of Ryan et al (Pat No. 6,284,972 B1); hereinafter Ryan et al. or vice versa. The teaching of Hiraoka et al has been provided and is not repeated. Ryan et al. teach multifunctional polymer (which can be polyimides) (Cf Col 7) and which can be multilayered (Cf Col 8) being subjected to low temperature plasma processes. It would have been obvious to combine the 2 teachings inasmuch as the component taught by Hiraoka et al can be re-designed into a multilayered wiring board or alternatively the microstructure taught by Ryan et al can be re-designed to be a multilayered wiring board.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. J. Arbes whose telephone number is 571-272-4563. The examiner can normally be reached on M, T, R and F from 8 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Vo, can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/C. J. Arbes/
Primary Examiner, Art Unit 3729